IN THE CLAIMS

Kindly amend claim 1 as shown in the following claim listing:

1. (currently amended) Method for controlling radiation power of a radiation source (26), comprising the steps of

a) driving the radiation source (26) in a first mode comprising the substeps of

a1) determining a threshold current (I_{thr}) at which the radiation source (26) begins to radiate,

a2) measuring the radiation power emitted by the radiation source (26),

a3) driving the radiation source (26) with the threshold current (I_{thr}) increased with ~~the~~ a delta current (I_{delta}) for obtaining a predetermined radiation power P_{r1}, wherein the delta current (I_{delta}) is calculated by subtracting the measured radiation power (P_m) from the predetermined radiation power P_{r1},

b) driving the radiation source (26) in a second mode comprising the substeps of

b1) determining the threshold current (I_{thr}), and

b2) driving the radiation source (26) with the threshold current (I_{thr}) increased with the delta current (I_{delta}) for obtaining the predetermined radiation power P_{r1}, wherein the delta current (I_{delta}) is calculated from the threshold current (I_{thr}) by using a function F which is a model for the relation between the threshold current (I_{thr}) and the delta current (I_{delta}) and the radiation power,

characterized in that the method further comprises the step of

c) calibrating the function F, comprising the substeps of

c1) determining the radiation power and the delta current (I_{delta}) at at least two different threshold currents (I_{thr}) when the radiation source (26) is driven in the first mode, and

c2) updating at least one parameter of the function F by using the measurements in substep c1.

2. (Original) Method as claimed in claim 1, characterized in that the first mode is a mode wherein the current (I_{tot}) to the radiation source (26) comprises a pulse which has a duration long enough to measure the radiation power and wherein the second mode is a mode wherein the current (I_{tot}) to the radiation source (26) comprises a train of short pulses.

3. (previously presented) Method as claimed in claim 1, characterized in that the function F is defined by a model describing the change in delta current (I_{delta}) as a function of the change in threshold current (I_{thr}) at the predetermined radiation power P_{r1}:

$$\frac{I_{DELTA-2} - I_{DELTA-1}}{I_{DELTA-1}} = \frac{I_{THR-2} - I_{THR-1}}{I_{THR-1}} * a$$

wherein I_{THR-1} is a first threshold current, I_{THR-2} is a second threshold current, $I_{DELTA-1}$ is a first delta current, $I_{DELTA-2}$ is a second delta current and a is a parameter and wherein the function F is updated by updating the parameter a.

4. (previously presented) Method as claimed in claim 1, characterized in that in
substep c1 the radiation power and delta current (I_{delta}) are measured at more than two threshold currents (I_{thr}).

5. (Original) Method as claimed in claim 4, characterized in that the function F is defined by a model describing the change in delta current (I_{delta}) as a function of the change in threshold current (I_{thr}) at a predetermined level of the radiation power Pr:

$$\frac{I_{DELTA-2} - I_{DELTA-1}}{I_{DELTA-1}} = \frac{I_{THR-2} - I_{THR-1}}{I_{THR-1}} * a + b$$

wherein I_{THR-1} is a first threshold current, I_{THR-2} is a second threshold current, $I_{DELTA-1}$ is a first delta current, $I_{DELTA-2}$ is a second delta current and a and b are parameters and wherein the function F is updated by updating the parameters a and b.

6. (previously presented) Method as claimed in claim 1, characterized in that the
threshold current (I_{thr}) is changed by changing the temperature of the radiation source (26).

7. (Original) A radiation source driving device for controlling a radiation power of a radiation source (26) in an information reproducing system for reproducing information on an information carrier (11), comprising

- radiation power measurement means (27) for measuring a radiation power of the radiation source (26),
- addition means (25) for outputting a total current (I_{tot}) by adding a threshold current (I_{thr}) and a delta current (I_{delta}) and thereby obtaining a predetermined radiation power P_{r1},
- threshold current determining means (20) for determining and outputting the threshold current (I_{thr}) at which the radiation source (26) begins to radiate, wherein the measured radiation power (P_m) is used to determine the threshold current (I_{thr}),
- delta current determining means (21) for determining and outputting the delta current (I_{delta}) wherein the value of the delta

current (I_{delta}) is determined such that the radiation power is substantially equal to a predetermined radiation power P_{r1}, comprising

- an online delta current generator (23) for generating an online delta current which is determined by subtracting the measured radiation power (P_m) from the predetermined radiation power P_{r1},
- an estimated delta current generator (22) for generating an estimated delta current which is calculated from the threshold current (I_{thr}) by using a function F which is a model for the relation between the threshold current (I_{thr}) and the delta current (I_{delta}) and the radiation power,
- delta current outputting means (24) for outputting the delta current (I_{delta}), wherein the online delta current is outputted when the radiation power is measured and the estimated delta current is outputted when the radiation power is not measured,

characterized in that the radiation source driving device further comprises calibration means (28) for updating at least one parameter of the function F, wherein the delta current (I_{delta}), the threshold current (I_{thr}) and the measured radiation power (P_m) are fed to the calibration means (28) and wherein the radiation power and the delta current (I_{delta}) are determined at at least two different threshold currents (I_{thr}) and are subsequently used to update the at least one parameter.

8. (Canceled)

9. (previously presented) A radiation source driving device as claimed in claim 7, characterized in that the radiation source current generator (21) is able to drive the radiation source (26) in a first mode and in a second mode, wherein the radiation power

measurement means (27) are able to measure the radiation power when the radiation source (26) is driven in the first mode and wherein the radiation power measurement means (27) are not able to measure the radiation power when the radiation source (26) is driven in the second mode, wherein the calibration means (28) are arranged to calibrate the function F during a period wherein the radiation source (26) is driven in the first mode.

10. (Original) A radiation source driving device as claimed in claim 9, characterized in that the first mode is a mode wherein the current to the radiation source (26) comprises a pulse which has a duration long enough to measure the radiation power and wherein the second mode is a mode wherein the current to the radiation source (26) comprises a train of short pulses.

11. (previously presented) A radiation source driving device as claimed in claim 7, characterized in that the function F is defined by a model describing the change in delta current (I_{delta}) as a function of the change in threshold current (I_{thr}) at the predetermined radiation power P_{r1}:

$$\frac{I_{DELTA-2} - I_{DELTA-1}}{I_{DELTA-1}} = \frac{I_{THR-2} - I_{THR-1}}{I_{THR-1}} * a$$

wherein I_{THR-1} is a first threshold current, I_{THR-2} is a second threshold current, $I_{DELTA-1}$ is a first delta current, $I_{DELTA-2}$ is a second delta current and a is a parameter and wherein the calibration means (28) are arranged to update the function F by updating the parameter a.

12. (previously presented) A radiation source driving device as claimed in claim 7, characterized in that the calibration means (28) are arranged for determining the radiation power and the delta current (I_{delta}) at more than two different threshold (I_{thr}) currents.

13. (Original) A radiation source driving device as claimed in claim 12, characterized in that the function F is defined by a model describing the change in delta current (I_{delta}) as a function of the change in threshold current (I_{thr}) at a predetermined level of the radiation power Pr:

$$\frac{I_{DELTA-2} - I_{DELTA-1}}{I_{DELTA-1}} = \frac{I_{THR-2} - I_{THR-1}}{I_{THR-1}} * a + b$$

wherein I_{THR-1} is a first threshold current, I_{THR-2} is a second threshold current, $I_{DELTA-1}$ is a first delta current, $I_{DELTA-2}$ is a second delta current and a and b are parameters and wherein the calibration means (28) are arranged to update the function F by updating the parameters a and b.

14. (previously presented) A radiation source driving device as claimed in claim 7, characterized in that the radiation source driving device is arranged to change the threshold current (I_{thr}) for calibration by changing the temperature of the radiation source (26).

15. (previously presented) Information reproducing device for reproducing information on an information carrier (11) comprising

- a radiation source driving device as claimed in claim 7,
- a radiation source (26) which is driven by the radiation source driving device,
- means (36) for mapping radiation emitted by the radiation source (26) at a spot (33) at the -information carrier (11),

- means (31) for causing a relative displacement between the spot and the information carrier (11).